

# A “Minor” Emergency



by Lt. Tim Urban

I was in the E-2 FRS. Several flights with the squadron NATOPS guru and E-2 Group 0 Model Manager had made me appreciate systems knowledge and the importance of knowing everything about the aircraft. But, there are some things a pilot cannot prepare for before a flight.

During an FCLP det at Key West, the high temperatures and busy flight schedule put unusual stress on our already overworked aircraft. After several days, the fledgling aviators and experienced instructors settled into a routine. I had encountered minor emergencies that amounted to little more than a MAF and a quick fix. Today's flight would prove different.

Scheduled as the hot-switch pilot, I seized the opportunity to relax and visualize my pattern for that afternoon and the upcoming



CQ det. After an hour, I walked to the line and got into my tired aircraft, ready to take hits for a couple of OK passes. The instructor in the right seat had a great attitude and was eager for us to learn. Unfortunately, with a det of F-16s and FA-18s to contend with, our Hawkeyes were subjected to long deltas and what amounted to the equivalent of the infamous “Hummer Dance.” We raised our landing gear to save gas and lowered them when the tower called Charlie.



PHAN Michael B. W. Watkins

After two passes, I began to feel comfortable, but with only four left in the period, I needed to string together a few consecutive passes to restore my confidence. As we rolled out on our downwind heading for a third pass, all seemed normal. With the landing checks complete, we slowed to on-speed approaching the 180. At that moment we saw master-caution and maximum-rudder lights. The E-2 has a system that limits the rudder throw to avoid overstress.

I called out, “Max rudder, no others,” and punched out the light. Simultaneously, we saw a hydraulic-combined low-light and an associated drop on both combined-system pressure gauges. By this time we were approaching the 135. We could hear a loud whirring from cavitation of the combined pump in the port nacelle, alerting us to the risk of fire. Smoke from burning hydraulic fluid poured from the engine, increasing the risk of a flameout and single-engine ops.

My instructor calmly declared an emergency while I continued the approach turn. The E-2C PCL contains no


boldface items for failure of one hydraulic system, so I was left to fly a good approach and think about the possible outcomes of the situation. Inside the 90, we realized the guy in back (another student) was pressing us for a situation update. We told him to be quiet—not the best example of aircrew coordination. Fortunately, we had extended the gear and flaps. My instructor took the controls turning to the 45, and I began reviewing what would happen on the ground: what subsystems we would have and what procedures we would follow.

The actual landing was uneventful. Without hydraulic subsystems, we slowed and steered the aircraft with differential power, coming to a stop on an off-duty runway.

With the aircraft chocked by the crash crew, my instructor ran through the secure checks from memory, turned off the boost pumps and generators, and tried to secure the engines. However, the emergency generator is a combined-hydraulic subsystem, which was lost with the initial system failure. Shutting down the generators would mean we wouldn’t secure the engines via the T-handles or fight any engine fire with the extinguishers.

After a second of deliberation, he pulled the condition levers to the ground-stop position. This position is also electrically controlled, so the engines kept running. He finally realized this second mistake after we looked at each other and said a few expletives. We secured the engines by pulling one condition lever to feather (effectively starving the engine of fuel), removing that lever from the feather position, and finally pulling the other condition lever to feather. We then left the aircraft via the main entrance hatch; another mistake made because of a lack of crew coordination and planning, since the port engine still presented the danger of fire.

Outside, hydraulic fluid continued to pour from the engine and pool on the deck. We later discovered that 14 gallons of hydraulic fluid had spewed out in less than five seconds at 3,000 psi from a slit the width of a paper cut in one of the original aluminum hydraulic lines. The slit had been caused by a spacer meant to prevent chafing on the line.

Though this emergency may seem minor, it was my first look at how fast a situation develops that can kill you. Lessons learned include the absolute necessity of knowing emergency procedures cold, the importance of good aircrew coordination in multi-piloted aircraft, the invaluable knowledge of systems, and the ability to react quickly and calmly in a situation that may last only seconds. 

Lt. Urban flies with VAW-124.